SOUTH RIVER WATER ASSOCIATION (PWSNO 1280155)
SOURCE WATER ASSESSMENT REPORT

March 20, 2002

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This risk assessment is based on a land use inventory in the well recharge zone, sensitivity factors associated with how the well was constructed, and aquifer characteristics.

This report, *Source Water Assessment for South River Water Association*, describes the public drinking water well; the well recharge zone and potential contaminant sites located inside the recharge zone boundaries. This assessment, taken into account with local knowledge and concerns, should be used as a planning tool to develop and implement appropriate protection measures for this public water system. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

South River Water Association drinking water is supplied by three wells. Well #1 is 85 feet deep and draws from the Rathdrum Prairie Aquifer. Wells #2 and #3 are respectively 420 and 642 feet deep. They pump from a small aquifer in a granitic formation in the hills South of the Spokane River near Post Falls, Idaho. The Association serves a population of 150. Well #1 has proven to be highly susceptible to nitrate contamination, and is ranked moderately susceptible to other classes of regulated contaminants. Well #2 is ranked moderately susceptible to inorganic and organic chemical contaminants, but has a low susceptibility ranking for microbial contamination. Well #3 has a low susceptibility rating relative to all classes of regulated contaminants.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

The South River Water Association water system is mostly in compliance with *Idaho Rules for Public Drinking Water Systems.* The Association drilled Well #3 in 1998 to provide a second low nitrate source. Coliform bacteria were persistently present in the distribution system in 1990s, but follow up testing never found bacteria in samples from the wells themselves. South River dealt with the problem by installing a chlorinator and by hiring a certified water system operator to maintain the system. Because the recharge zones for Wells #1 and #2 are in an area where there is a potential for future housing development, limiting septic tank and drainfield density is probably the most important measure the Association can take to protect drinking water quality.

Because 186 public water systems in Idaho draw water from the Rathdrum Prairie Aquifer, they should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. Partnerships with state and local agencies and industry groups should also be established.

For assistance in developing drinking water protection strategies, please contact your regional Department of Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR SOUTH RIVER WATER ASSOCIATION

Section 1. Introduction - Basis for Assessment

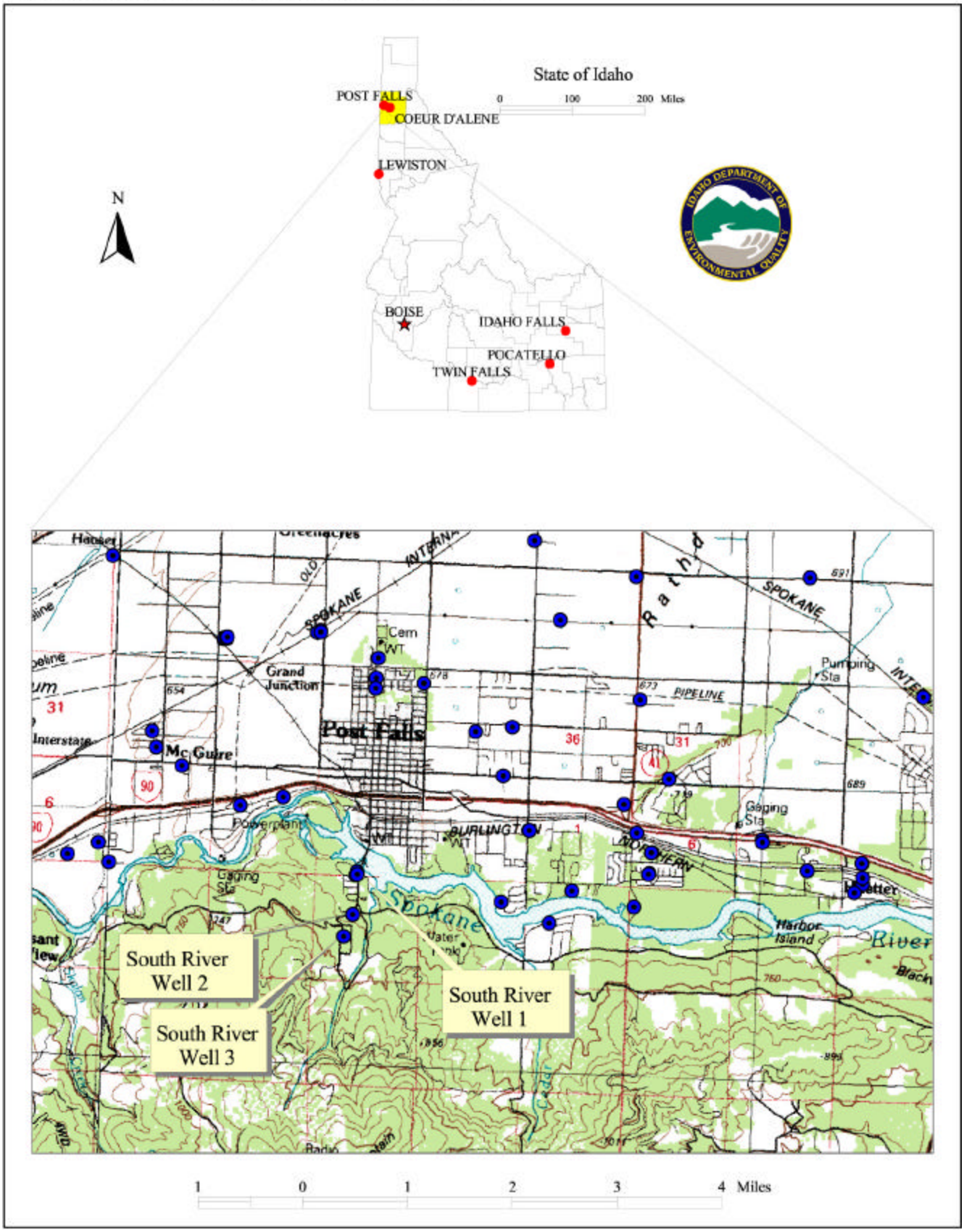
The following sections contain information necessary for understanding how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and an inventory of significant potential sources of contamination identified within that area are included. The ground water susceptibility analysis worksheets used to develop this assessment are attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess every public drinking water source in Idaho for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. These assessments are based on a land use inventory inside the delineated recharge zones, sensitivity factors associated with how the well is constructed, and aquifer characteristics. The state must complete more than 2900 assessments by May of 2003. Because resources and the time available to accomplish assessments are limited, an in-depth, site-specific investigation for every public water system is not possible.

The results of the source water assessment should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system. The ultimate goal of this assessment is to provide data to local communities for developing a protection strategy for their drinking water supply. The Idaho Department of Environmental Quality recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Geographic Location of South River Water Association



Section 2. Preparing for the Assessment

Defining the Zones of Contribution - Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the well recharge area into time of travel zones indicating the number of years necessary for a particle of water to reach a well. DEQ used computer models approved by the EPA to determine the time of travel (TOT) zones. The computer models use data assimilated by DEQ from a variety of sources including the local well logs.

The South River Water Association is a community water system with 62 connections serving a population of 150 people in a residential area south of the Spokane River near Post Falls (Figure 1). Three wells supply water for fire protection and domestic use. Well #1 was drilled to a depth of 85 feet in the 1960's and draws from the Rathdrum Prairie Aquifer. Its estimated capacity is 75 GPM. The ground water flow model for South River Well #1 incorporated data from the report *Investigation of Nitrate in Ground Water in a Small Aquifer South of Post Falls, Idaho* prepared for DEQ in 1999 by John Riley of Pyrite Hydrochem. The estimated time of travel between the Well #1 and the aquifer boundaries is one year or less.

The delineated source water assessment area for South River Water Association Well #1 encompasses 18.5 acres. One leg of the recharge zone stretches southwest from the well for about 1000 feet to a bedrock boundary. The other leg trends eastward to the edge of the aquifer defined by the Spokane River. Water levels in local wells show a hydrologic divide just south of the greenhouses shown on Figure 2. This hydrologic divide accounts for the deeply curved southern boundary of the delineation.

Well #2, is 420 feet deep and has an estimated capacity of 23 to 50 GPM. At the higher rate of withdrawal, pumping can be sustained only 4 hours before excessive draw down forces the pump to shut off. The well recharge delineation for well #2 encompasses 23.2 acres divided into 0-3, 3-6 and 6-10 time of travel zones. Well #3 is 642 feet deep with a capacity of 70 to 75 GPM. Its recharge delineation encloses 22 acres and is also sub divided into three time of travel zones.

Identifying Potential Sources of Contamination

The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. Inventories for public water systems in Idaho were conducted in two-phases. The first phase involved identifying and documenting potential contaminant sources within the source water assessment areas through the use of computer databases and Geographic Information System maps developed by DEQ. Maps showing the delineation and tables summarizing the results of the database search were then sent to system operators for review and correction during the second or enhanced phase of the inventory process

Figure 2, *South River Water Association Delineation and Potential Contaminant Inventory* on page 7 of this report shows the location of the South River Water Association wells, and the zones of contribution DEQ delineated for them.

Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. When a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation.

Section 3. Susceptibility Analysis

The susceptibility to contamination of all ground water sources in Idaho is being assessed on the following factors:

- physical integrity of the well,
- hydrologic characteristics,
- land use characteristics, and potentially significant contaminant sources
- historic water quality

The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. A high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking. The Susceptibility Analysis Worksheets in Attachment A show in detail how the South River Water Association wells scored.

Well Construction

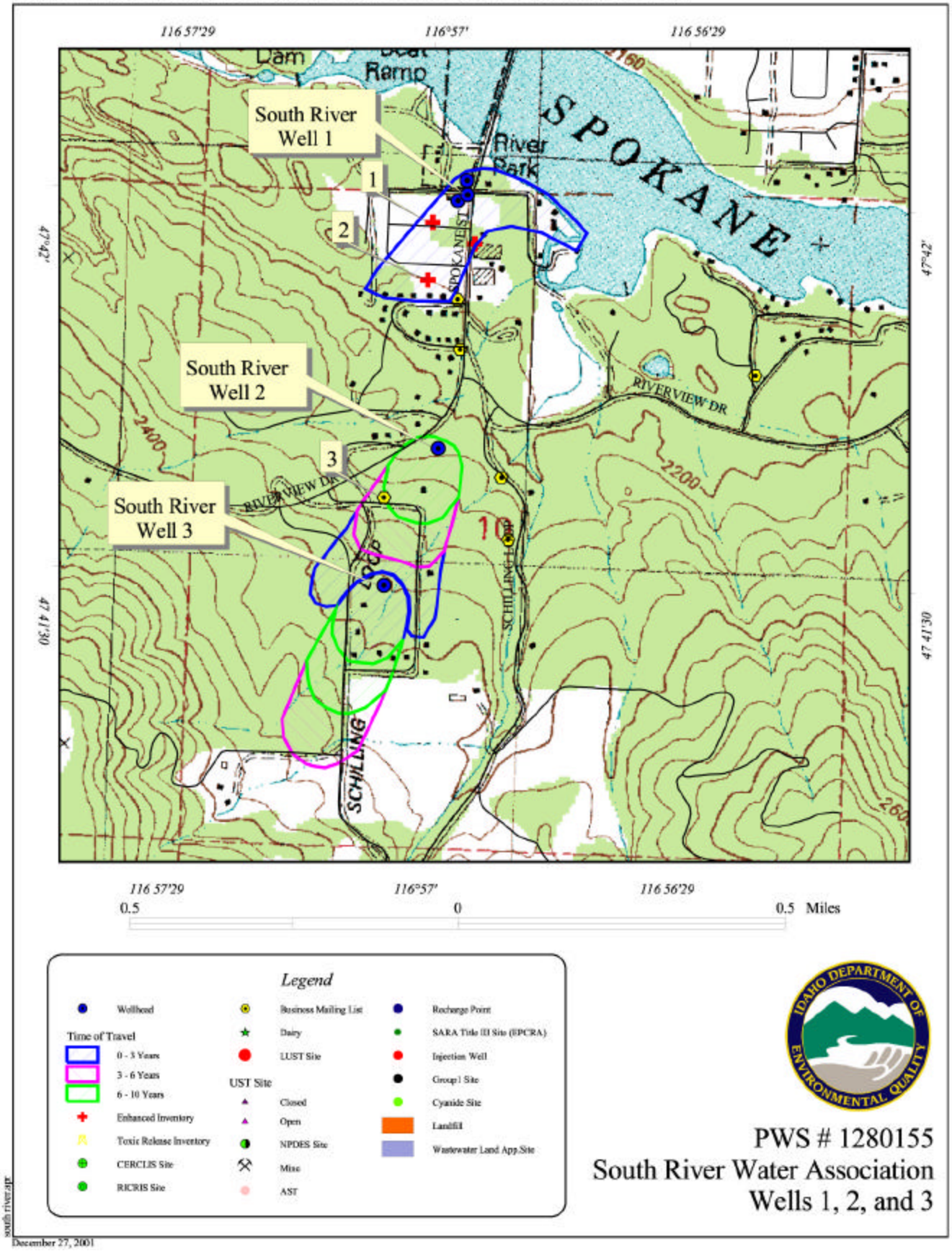
Well construction directly affects the ability of the wells to protect the aquifer from contaminants. Lower scores imply a well that can better protect the water. This portion of the susceptibility analysis relies on information from individual well logs and from the most recent sanitary survey of the public water system.

Well #1. The well log for South River Water Association Well #1 is not on file with DEQ. The last sanitary survey of the system, conducted in September 1998, concluded that the system had made sufficient progress in meeting *Idaho Rules for Public Drinking Water Systems* to be granted approved status. No deficiencies in well seal or wellhead maintenance were observed during the inspection.

Well #1 was drilled in the 1960s to a depth of 85 feet in an alluvial area adjoining the Rathdrum Prairie Aquifer. It has an 8-inch steel casing that extends 2 feet above ground. The static water level is reportedly 30 feet below the surface. Because the well log is not available, there are no details available about the casing or seal depth, screen depth, and soil type above the water table at the well site.

Well #2. Well #2 was drilled in 1991 to a depth of 420 feet. The 8-inch steel casing extends from 1.5 feet above the surface to 18.5 feet below. The well is lined to its full depth with 6" diameter PVC. The bentonite clay surface seal is 18 feet deep. Both the steel casing and the seal terminate is a water bearing stratum the well log describes as black-white quartzite which extends from 7 to 19 feet below the surface. The static water level in the well is 40 feet below the surface.

Figure 2. South River Water Association Delineation and Potential Contaminant Inventory.



Well #3. Well #3 was constructed in 1998. It is 642 feet deep with an 8-inch steel casing from two feet above grade to a depth of 60 feet. The bentonite surface seal is also 60 feet deep. Well #3 is lined with 6-inch diameter PVC that is perforated at two levels: between 520 and 560 feet and between 620 and 640 feet. The static water level in Well #3 is 50 feet below ground. A layer of fractured granite between 100 and 124 feet below the surface is the most productive level of the well.

Hydrologic Sensitivity

The hydrologic sensitivity score for the South River Water Association Well #1 was 6 points out 6 points possible. The score reflects natural geologic conditions at the well site and in the recharge zone. Information for this portion of the analysis is derived from the well log and the soil drainage classification inside the delineated well recharge zone boundaries. The soils in the recharge zone as a whole are moderately well to well drained. Poorly drained to moderately well drained soils are more protective of ground water than soils that drain faster.

The depth to ground water is less than 300 feet. Composition of the soil above the water table at the well site is unknown since the well log is not available. Never the less, the hydrologic sensitivity score counted against the South River Water Association Well #1 is in line with scores for other wells on the Rathdrum Prairie Aquifer whose well logs show porous material above the ground water level.

The hydrologic sensitivity scores for Wells #2 and #3 are 3 points out 6 possible. The granite underlying the well recharge zones and at the well sites retards ground water movement and the migration of contaminants.

Potential Contaminant Sources and Land Use

Land use within the South River Water Association Well #1 recharge zone is urban residential with homes on individual septic systems. There is a commercial greenhouse near the southern boundary of the recharge zone. Both the greenhouse and the high density of septic systems (more than 10 in 40 acres) are possible contributors to elevated nitrate levels in Well #1. The zones of contribution for Wells #2 and #3 are less densely developed. Potential contaminant sources identified on Figure 2 are listed on Table 1.

Table 1. South River Water Association Potential Contaminant Inventory

Map ID	Site Description	*Potential Contaminants	Source of Information
1	High Density Septic Systems	IOC, Microbial	Enhanced Inventory
2	High Density Septic Systems	IOC, Microbial	Enhanced Inventory
3	Chemical Equipment & Supplies	IOC, SOC, VOC	Business Mailing List

*IOC= Inorganic Chemical. SOC= Synthetic Organic Chemical. VOC= Volatile Organic Chemical

Historic Water Quality

Water quality problems for South River Water Association have been limited to persistent microbial contamination in the distribution system in the mid-1990s and high nitrate levels in Well #1. Nitrate concentrations exceeded the Maximum contaminant Level (MCL) of 10 mg/l in April and May 1996, in March, May and June 1997, and in May 1999. The Association has taken effective measures to solve both the bacterial and nitrate problems.

A chlorinator was installed and a certified operator was hired to maintain the system in the spring of 1998. The systems had not had a positive bacterial sample since May 1998. Well #3 was brought on line to reduce the system's reliance on Well #1.

Radiological contaminants at concentrations below the Maximum Contaminant Level since testing began in 1995. Synthetic organic chemicals (SOCs) and volatile organic chemicals (VOCs) have never been detected in South River Water Association samples.

Except for nitrate in Well #1 as noted above, no inorganic chemicals have been detected in concentrations above the MCL. Test results for inorganic chemical constituents are as follows:

Table 2. South River Water Association Sampling Results

Chemical	Amount	Units	Well	Dates
Barium	0.03	mg/l	Well 1	28-Dec-98
Calcium	Range: 22.0 to 66.0	mg/l	Well 1	09-Mar-88 Oct 2000
Magnesium	2.7 7.6	mg/l	Well 1	24-Jul-95 26-Jan-98
Manganese	0.01	mg/l	Well 1	20-Dec-95
Nitrate (As N)	Range: 0.06 to 18.4 Average of 52 samples: 5.51	mg/l	Well 1	29-Jan-85 through 26-Apr-01
Fluoride	1.4	mg/l	Well 2	20-Dec-95
Fluoride	1.7	mg/l	Well 2	28-Dec-98
Iron	0.06	mg/l	Well 2	31-Jul-91
Iron	4.2	mg/l	Well 2	20-Dec-95
Lead	0.007	mg/l	Well 2	20-Dec-95
Manganese	0.02	mg/l	Well 2	31-Jul-91
Nitrate (As N)	Range:0.397 to 1.58	mg/l	Well 2	31-Jul-91 through 20-Dec-95
Sodium	Range:22.0 to 30.0	mg/l	Well 2	31-Jul-91 through 28-Dec-98
Sulfate	14.0	mg/l	Well 2	31-Jul-91
Sulfate	18.0	mg/l	Well 2	20-Dec-95
Zinc	0.18	mg/l	Well 2	31-Jul-91
Zinc	0.91	mg/l	Well 2	20-Dec-95

Table 2. South River Water Association Sampling Results continued

Chemical	Amount	Units	Well	Dates
Calcium	56.0	mg/l	Well 3	26-May-99
Fluoride	0.4	mg/l	Well 3	15-Apr-98
Iron	0.73	mg/l	Well 3	26-May-99
Lead	0.003	mg/l	Well 3	26-May-99
Magnesium	5.19	mg/l	Well 3	26-May-99
Manganese	0.02	mg/l	Well 3	26-May-99
Nitrate (As N)	1.1	mg/l	Well 3	26-May-99
Nitrate (As N)	1.36	mg/l	Well 3	08-Feb-00
Nitrate (As N)	1.2	mg/l	Well 3	07-Dec-00
Sodium	7.81	mg/l	Well 3	15-Apr-98
Sulfate	5.2	mg/l	Well 3	26-May-99

Ranking

South River Water Association Well #1 ranked highly susceptible to inorganic chemical contamination based on the well's nitrate sampling history. Vulnerability to other classes of regulated contaminants is moderate. Well #2 ranked moderately susceptible to IOC, VOC and SOC contamination, and has a low risk of microbial contamination. Well #3 is at low risk from all classes of regulated contaminants. Total scores in each category are summarized on Table 3. The complete analysis worksheets for the wells are in Attachment A.

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

The final ranking categories are as follows:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

Table 3. Summary of South River Water Association Susceptibility Evaluation

Cumulative Susceptibility Scores						
Well Name	System Construction	Hydrologic Sensitivity	Contaminant Inventory			
			IOC	VOC	SOC	Microbial
Well #1	4	6	5	2	2	4
Well #2	2	3	4	4	4	1
Well #3	1	3	1	1	1	1
Final Susceptibility Score/Ranking						
	IOC		VOC	SOC		Microbial
Well #1	*HIGH		10/Moderate	10/Moderate		12/Moderate
Well #2	6/Moderate		6/Moderate	6/Moderate		5/Low
Well #3	4/Low		4/Low	4/Low		4/Low

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical. *High - Indicates source automatically scored as high susceptibility due to presence an IOC above the maximum contaminant level in the tested drinking water.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local area. The state and local health districts have instituted enhanced protection of the ground water in the Rathdrum Prairie Aquifer because of its high use and uniquely pristine water quality. The protections are generally aquifer wide and are not aimed at zones of contribution to a specific well or water system. *The Spokane Valley-Rathdrum Prairie Atlas*, sent to water systems on the prairie when they were invited to perform an enhanced contaminant inventory, describes some of the regional protection measures.

The 186 public water systems in Idaho that draw water from the Rathdrum Prairie Aquifer should consider forming a regional group to represent their interests before state, county and municipal governing bodies when regulatory tools like zoning overlays, or enactment of building codes are the most appropriate ground water protection measures. These types of measures could be used to protect the capture zones of a specific system or group of wells that could be put at risk from local land use changes. Partnerships with state and local agencies and industry groups should also be established. For instance, source water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, local Soil Conservation District, and the Natural Resources Conservation Service.

The South River Water Association water system is mostly in compliance with *Idaho Rules for Public Drinking Water Systems.* The Association drilled Well #3 in 1998 to provide a second low nitrate source with sufficient capacity to reduce the system's reliance on Well #1, the former primary source for the system. Coliform bacteria were persistently present in the distribution system in 1990s, but follow up testing never found bacteria in samples from the wells themselves. South River dealt with the problem by installing a chlorinator and by hiring a certified water system operator to maintain the system. The September 29, 1998 Sanitary Survey report concluded that the South River Water Association system has achieved approved status. Remaining deficiencies listed on the survey report were a dirt floor in Pump House #2, and plumbing leaks in the pump house next to the reservoir that kept the floor wet. Both situations make the system more vulnerable to contamination.

Because the recharge zones for Wells #1 and #2 are in an area where there is a potential for future housing development, limiting septic tank and drainfield density is probably the most important measure the Association can take to protect drinking water quality. Nitrates and microbial contaminants such as bacteria, protozoa and viruses are the contaminants most frequently associated with septic systems, but improper disposal of household products can make them a source of SOC and VOC contaminants as well. In addition to regulating the number of septic systems over the well recharge zones, the Water Association should consider sponsoring septic system use and maintenance workshops for homeowners in the recharge zone. Existing drainfields, especially in the 0-3 year time of travel zones, should be monitored constantly for signs of failure such as odor or lush vegetation.

Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the IDEQ office for preliminary review and comments.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at (208) 343-7001 for assistance with wellhead protection strategies.

References Cited

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "Recommended Standards for Water Works."

Idaho Department of Agriculture, 1998. Unpublished Data.

Idaho Division of Environmental Quality, 1994. Ground Water and Soils Reconnaissance of the Lower Payette Area, Payette County, Idaho. Ground Water Quality Technical Report No. 5. Idaho Division of Environmental Quality. December 1994.

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Natural Resource Conservation Service, 1991. Idaho Snake-Payette Rivers Hydrologic Unit Plan of Work. March 1991.

United States Geological Survey, 1986. Quality of Ground Water in the Payette River Basin, Idaho. United States Geological Survey. Water Resources Investigation Report 86-4013.

University of Idaho. 1986. Ground Water Resources in a Portion of Payette County, Idaho. Idaho Water Resources Research Institute. University of Idaho. Moscow, Idaho. April 1986.

Attachment A

South River Water Association
Susceptibility Analysis
Worksheets

Ground Water Susceptibility

Public Water System Name : **SOUTH RIVER WATER ASSN** Source: **WELL 1**

Public Water System Number : **1280155** 12/20/01 3:08:54 PM

1. System Construction		SCORE			
Drill Date	UNKNOWN				
Driller Log Available	NO 1998				
Sanitary Survey (if yes, indicate date of last survey)	YES				
Well meets IDWR construction standards	UNKNOWN	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	UNKNOWN	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**4**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	UNKNOWN	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	UNKNOWN	2			
Total Hydrologic Score		**6**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		Score	Score	Score	Score
Land Use Zone 1A	URBAN/RESIDENTIAL	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	YES	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		***HIGH**	**2**	**2**	**2**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	YES	1	0	0	1
(Score = # Sources X 2) 8 Points Maximum		2	0	0	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	0	0	
4 Points Maximum		1	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**3**	**0**	**0**	**2**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**5**	**2**	**2**	**4**
4. Final Susceptibility Source Score		**11**	**10**	**10**	**12**
5. Final Well Ranking		***HIGH**	Moderate	Moderate	Moderate

Ground Water Susceptibility

Public Water System Name : **SOUTH RIVER WATER ASSN** Source: **WELL 2**

Public Water System Number : **1280155** 12/20/01 3:09:15 PM

1. System Construction		SCORE
Drill Date	3/8/91	
Driller Log Available	YES	
Sanitary Survey (if yes, indicate date of last survey)	YES 1998	
Well meets IDWR construction standards	YES	0
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	YES	0
Total System Construction Score		**2**

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	NO	0
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		**3**

3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	LOW DENSITY RESIDENTIAL	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**1**	**1**	**1**	**1**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**3**	**3**	**3**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**4**	**4**	**4**	**1**
4. Final Susceptibility Source Score		**5**	**6**	**6**	**5**
5. Final Well Ranking		Moderate	Moderate	Moderate	Low

Ground Water Susceptibility

Public Water System Name : **SOUTH RIVER WATER ASSN** Source: **WELL 3**

Public Water System Number : **1280155** 12/20/01 3:09:36 PM

1. System Construction		SCORE			
Drill Date	2/19/98				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES 1998				
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**1**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**3**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		Score	Score	Score	Score
Land Use Zone 1A	LOW DENSITY RESIDENTIAL	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**1**	**1**	**1**	**1**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**1**	**1**	**1**	**1**
4. Final Susceptibility Source Score		**4**	**4**	**4**	**4**
5. Final Well Ranking		Low	Low	Low	Low

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.